

1. An ice skate blade, comprising:  
an elongated blade body having a main blade portion and an edge portion  
made from Type 60 Nitinol;  
said edge portion of said blade body having an ice-contacting bottom edge;  
5 said main blade portion having structure for engaging a blade holder;  
said bottom edge having opposed corners that are sharpened to bite into ice to  
facilitate travel and maneuvering on said ice;  
said main blade portion having an impact strength of greater than 45 foot-  
pounds and a hardness greater than about 40 RC.

2. An ice blade as defined in claim 1, wherein:  
said main blade portion has a tensile strength of greater than 130KSI and an  
elastic elongation of more than 3%.

3. An ice blade as defined in claim 1, wherein:  
said blade body has a hardness between about 48RC and 55RC.

4. An ice blade as defined in claim 1, wherein:  
said ice blade is an ice skate blade, and said blade holder is affixed to an ice  
skate boot;  
said structure for engaging a blade holder includes structure on a top edge,  
opposite to said bottom edge, for engaging said blade holder of said ice skate boot.

5. A method for sharpening a running edge of a Type 60 Nitinol ice skate blade to  
produce a hollow grind with opposing sharp edges, comprising:  
grinding said running edge, using a grinding wheel made substantially of  
cubitron, to a desired hollow profile with said desired sharp edges, making shallow  
grinding passes of about 0.002-0.004" for each pass until said desired sharp edges  
are attained.

6. A method of making ice blades, comprising:  
selecting a Type 60 Nitinol sheet that has been hot-worked at a temperature of about 900°C to 950°C to a reduction of at least about 2% in the dimension of said hot-working;

5 cutting ice blade blanks from said sheet;  
heating said blanks to between 600°C to about 800°C and immediately quenching said blanks to ambient temperature to produce blanks having a hardness of about 48-53RC; and  
grinding one edge of said blade blanks to a desired profile and sharpness.

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7. A method as defined in claim 6, further comprising:  
heat treating of the bottom of the blade to produce a very hard and erosion resistant surface.

15 8. A method as defined in claim 7, wherein:  
said heat treating of said bottom of said blade includes heating said one edge to an elevated temperature of about 850-1000°C and immediately quenching said blade blank to produce a hardness at said one edge of above 56RC.

20 9. A method as defined in claim 6, wherein:  
said grinding step includes rotating a narrow grinding blade, made primarily of cubic boron nitride, against said one end of said blade blanks and grinding off a layer of Nitinol in several passes, each pass being at a depth of 0.015"-0.020".

25 10. A method of forming a part made of Type 60 Nitinol to a desired shape, comprising:

heating said part to a temperature above 700°C;  
placing said part between matched dies having a die interface profile corresponding to said desired shape; and  
30 holding said part at said temperature for a period of at least about 15 minutes.

11. The method as defined in claim 9, further comprising:  
immediately after said holding period, rapidly quenching said part in coolant  
from said temperature to a temperature below about 400°C.
- 5 12. The method as defined in claim 10, wherein:  
said part is an ice blade and said desired shape is flat.